



SEQUENCE LISTING

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<120> TNF Receptors, TNF Binding Proteins and DNAs Coding for  
Them

<130> 98-385-E

<140> 09/525,998  
<141> 2000-03-15

<150> 08/383,676  
<151> 1995-02-01

<150> 08/153,287  
<151> 1993-11-17

<150> 07/821,750  
<151> 1993-01-02

<150> 07/511,430  
<151> 1990-04-20

<160> 97

<170> PatentIn Ver. 2.0

<210> 1  
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<212> DNA  
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<222> (1)..(1365)

<220>  
<221> sig\_peptide  
<222> (1)..(87)

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<221> misc\_feature  
<222> (88)..(120)  
<223> portion of TNF-BP pro protein cleaved by  
extracellular proteases following secretion

<220>  
<221> misc\_feature  
<222> (606)..(633)  
<223> portion of TNF-BP pro protein cleaved by  
extracellular proteases following secretion

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gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga ctg gtc cct	96
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro	
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cac cta ggg gac agg gag aag aga gat agt gtg tgt ccc caa gga aaa	144
His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys	
35 40 45	
tat atc cac cct caa aat aat tcg att tgc tgt acc aag tgc cac aaa	192
Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys	
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gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag gat acg gac	240
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp	
65 70 75 80	
tgc agg gag tgt gag agc ggc tcc ttc acc gct tca gaa aac cac ctc	288
Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu	
85 90 95	
aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa atg ggt cag gtg	336
Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val	
100 105 110	
gag atc tct tct tgc aca gtg gac cgg gac acc gtg tgt ggc tgc agg	384
Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg	
115 120 125	
aag aac cag tac cgg cat tat tgg agt gaa aac ctt ttc cag tgc ttc	432
Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe	
130 135 140	
aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc tcc tgc cag gag	480
Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu	
145 150 155 160	
aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc ttt cta aga gaa	528
Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu	
165 170 175	
aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc ctg gag tgc acg	576
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180 185 190	
aag ttg tgc cta ccc cag att gag aat gtt aag ggc act gag gac tca	624
Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser	
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ggc acc aca gtg ctg ttg ccc ctg gtc att ttc ttt ggt ctt tgc ctt	672
Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu	
210 215 220	
tta tcc ctc ctc ttc att ggt tta atg tat cgc tac caa cgg tgg aag	720

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tcc	aag	ctc	tac	tcc	att	gtt	tgt	ggg	aaa	tcg	aca	cct	gaa	aaa	gag	768
Ser	Lys	Leu	Tyr	Ser	Ile	Val	Cys	Gly	Lys	Ser	Thr	Pro	Glu	Lys	Glu	
				245				250						255		
ggg	gag	ctt	gaa	gga	act	act	act	aag	ccc	ctg	gcc	cca	aac	cca	agc	816
Gly	Glu	Leu	Glu	Gly	Thr	Thr	Thr	Lys	Pro	Leu	Ala	Pro	Asn	Pro	Ser	
			260					265					270			
ttc	agt	ccc	act	cca	ggc	ttc	acc	ccc	acc	ctg	ggc	ttc	agt	ccc	gtg	864
Phe	Ser	Pro	Thr	Pro	Gly	Phe	Thr	Pro	Thr	Leu	Gly	Phe	Ser	Pro	Val	
		275					280					285				
ccc	agt	tcc	acc	ttc	acc	tcc	agc	tcc	acc	tat	acc	ccc	ggt	gac	tgt	912
Pro	Ser	Ser	Thr	Phe	Thr	Ser	Ser	Ser	Thr	Tyr	Thr	Pro	Gly	Asp	Cys	
	290					295					300					
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Pro	Asn	Phe	Ala	Ala	Pro	Arg	Arg	Glu	Val	Ala	Pro	Pro	Tyr	Gln	Gly	
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gct	gac	ccc	atc	ctt	gcg	aca	gcc	ctc	gcc	tcc	gac	ccc	atc	ccc	aac	1008
Ala	Asp	Pro	Ile	Leu	Ala	Thr	Ala	Leu	Ala	Ser	Asp	Pro	Ile	Pro	Asn	
				325				330						335		
ccc	ctt	cag	aag	tgg	gag	gac	agc	gcc	cac	aag	cca	cag	agc	cta	gac	1056
Pro	Leu	Gln	Lys	Trp	Glu	Asp	Ser	Ala	His	Lys	Pro	Gln	Ser	Leu	Asp	
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Thr	Asp	Asp	Pro	Ala	Thr	Leu	Tyr	Ala	Val	Val	Glu	Asn	Val	Pro	Pro	
			355				360					365				
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Leu	Arg	Trp	Lys	Glu	Phe	Val	Arg	Arg	Leu	Gly	Leu	Ser	Asp	His	Glu	
	370					375					380					
atc	gat	cgg	ctg	gag	ctg	cag	aac	ggg	cgc	tgc	ctg	cgc	gag	gcg	caa	1200
Ile	Asp	Arg	Leu	Glu	Leu	Gln	Asn	Gly	Arg	Cys	Leu	Arg	Glu	Ala	Gln	
385					390					395					400	
tac	agc	atg	ctg	gcg	acc	tgg	agg	cgg	cgc	acg	ccg	cgg	cgc	gag	gcc	1248
Tyr	Ser	Met	Leu	Ala	Thr	Trp	Arg	Arg	Arg	Thr	Pro	Arg	Arg	Glu	Ala	
				405					410					415		
acg	ctg	gag	ctg	ctg	gga	cgc	gtg	ctc	cgc	gac	atg	gac	ctg	ctg	ggc	1296
Thr	Leu	Glu	Leu	Leu	Gly	Arg	Val	Leu	Arg	Asp	Met	Asp	Leu	Leu	Gly	
			420					425					430			
tgc	ctg	gag	gac	atc	gag	gag	gcg	ctt	tgc	ggc	ccc	gcc	gcc	ctc	ccg	1344
Cys	Leu	Glu	Asp	Ile	Glu	Glu	Ala	Leu	Cys	Gly	Pro	Ala	Ala	Leu	Pro	
			435				440					445				
ccc	gcg	ccc	agt	ctt	ctc	aga	tga									1368
Pro	Ala	Pro	Ser	Leu	Leu	Arg										

450

455

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&lt;211&gt; 455

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2

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Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro  
 20 25 30

His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys  
 35 40 45

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys  
 50 55 60

Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp  
 65 70 75 80

Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu  
 85 90 95

Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val  
 100 105 110

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg  
 115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe  
 130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu  
 145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu  
 165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr  
 180 185 190

Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser  
 195 200 205

Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu  
 210 215 220

Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys  
 225 230 235 240

Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu  
 245 250 255

Gly Glu Leu Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser  
 260 265 270  
 Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val  
 275 280 285  
 Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys  
 290 295 300  
 Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly  
 305 310 315 320  
 Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn  
 325 330 335  
 Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp  
 340 345 350  
 Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro  
 355 360 365  
 Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu  
 370 375 380  
 Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln  
 385 390 395 400  
 Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala  
 405 410 415  
 Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly  
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 Pro Ala Pro Ser Leu Leu Arg  
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 <213> Homo sapiens

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 1 5 10 15  
 att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac tgt 96  
 Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys  
 20 25 30

cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc tcc	144
Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser	
35 40 45	
ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa	192
Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys	
50 55 60	
tgc cga aag gaa atg ggt cag gtg gag atc tct tct tgc aca gtg gac	240
Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp	
65 70 75 80	
cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat tgg	288
Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp	
85 90 95	
agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg	336
Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly	
100 105 110	
acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc	384
Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys	
115 120 125	
cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac	432
His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn	
130 135 140	
tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att gag	480
Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu	
145 150 155 160	
aat	483
Asn	

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 <213> Homo sapiens

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 20 25 30  
 Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser  
 35 40 45  
 Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys  
 50 55 60  
 Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp  
 65 70 75 80

Arg	Asp	Thr	Val	Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	
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Ser	Glu	Asn	Leu	Phe	Gln	Cys	Phe	Asn	Cys	Ser	Leu	Cys	Leu	Asn	Gly	
			100					105					110			
Thr	Val	His	Leu	Ser	Cys	Gln	Glu	Lys	Gln	Asn	Thr	Val	Cys	Thr	Cys	
		115					120					125				
His	Ala	Gly	Phe	Phe	Leu	Arg	Glu	Asn	Glu	Cys	Val	Ser	Cys	Ser	Asn	
	130					135					140					
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<210> 5

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: recombinant  
TNF-BP sequence

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<221> CDS

<222> (1)..(486)

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tgc	att	tgc	tgt	acc	aag	tgc	cac	aaa	gga	acc	tac	ttg	tac	aat	gac	96
Ser	Ile	Cys	Cys	Thr	Lys	Cys	His	Lys	Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	
			20					25					30			

tgt	cca	ggc	ccg	ggg	cag	gat	acg	gac	tgc	agg	gag	tgt	gag	agc	ggc	144
Cys	Pro	Gly	Pro	Gly	Gln	Asp	Thr	Asp	Cys	Arg	Glu	Cys	Glu	Ser	Gly	
		35					40					45				

tcc	ttc	acc	gct	tca	gaa	aac	cac	ctc	aga	cac	tgc	ctc	agc	tgc	tcc	192
Ser	Phe	Thr	Ala	Ser	Glu	Asn	His	Leu	Arg	His	Cys	Leu	Ser	Cys	Ser	
	50					55					60					

aaa	tgc	cga	aag	gaa	atg	ggg	cag	gtg	gag	atc	tct	tct	tgc	aca	gtg	240
Lys	Cys	Arg	Lys	Glu	Met	Gly	Gln	Val	Glu	Ile	Ser	Ser	Cys	Thr	Val	
65				70					75						80	

gac	cgg	gac	acc	gtg	tgt	ggc	tgc	agg	aag	aac	cag	tac	cgg	cat	tat	288
Asp	Arg	Asp	Thr	Val	Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	Arg	His	Tyr	
				85					90						95	

tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat	336
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn	
100 105 110	
ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc	384
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr	
115 120 125	
tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt	432
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser	
130 135 140	
aac tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att	480
Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile	
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gag aat	486
Glu Asn	

<210> 6

<211> 162

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant  
TNF-BP sequence

<400> 6

Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn
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Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp
20 25 30

Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly
35 40 45

Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser
50 55 60

Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val
65 70 75 80

Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr
85 90 95

Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn
100 105 110

Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr
115 120 125

Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser
130 135 140



Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile  
 145 150 155 160

Glu Asn

<210> 7  
 <211> 633  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: recombinant  
 TNF-BP sequence

<220>  
 <221> CDS  
 <222> (1)..(633)

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 1 5 10 15  
 gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga ctg gtc cct 96  
 Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro  
 20 25 30  
 cac cta ggg gac agg gag aag aga gat agt gtg tgt ccc caa gga aaa 144  
 His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys  
 35 40 45  
 tat atc cac cct caa aat aat tcg att tgc tgt acc aag tgc cac aaa 192  
 Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys  
 50 55 60  
 gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag gat acg gac 240  
 Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp  
 65 70 75 80  
 tgc agg gag tgt gag agc ggc tcc ttc acc gct tca gaa aac cac ctc 288  
 Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu  
 85 90 95  
 aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa atg ggt cag gtg 336  
 Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val  
 100 105 110  
 gag atc tct tct tgc aca gtg gac cgg gac acc gtg tgt ggc tgc agg 384  
 Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg  
 115 120 125  
 aag aac cag tac cgg cat tat tgg agt gaa aac ctt ttc cag tgc ttc 432  
 Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe  
 130 135 140



130	135	140
Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu		
145	150	155 160
Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu		
	165	170 175
Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr		
	180	185 190
Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser		
	195	200 205
Gly Thr Thr		
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 <212> DNA  
 <213> Artificial Sequence

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 TNF-BP sequence

<220>  
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ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt acc	96
Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr	
20 25 30	
aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg ggg	144
Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly	
35 40 45	
cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct tca	192
Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser	
50 55 60	
gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa	240
Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu	
65 70 75 80	
atg ggt cag gtg gag atc tct tct tgc aca gtg gac cgg gac acc gtg	288
Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val	
85 90 95	
tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac ctt	336

Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu	
100 105 110	
ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc	384
Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu	
115 120 125	
tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc	432
Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe	
130 135 140	
ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc	480
Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser	
145 150 155 160	
ctg gag tgc acg aag ttg tgc cta ccc cag att gag aat gtt aag ggc	528
Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly	
165 170 175	
act gag gac tca ggc acc aca	549
Thr Glu Asp Ser Gly Thr Thr	
180	

<210> 10  
 <211> 183  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: recombinant  
 TNF-BP sequence

<400> 10  
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 1 5 10 15

Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr  
 20 25 30

Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly  
 35 40 45

Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser  
 50 55 60

Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu  
 65 70 75 80

Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val  
 85 90 95

Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu  
 100 105 110

Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu  
 115 120 125

Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe  
130 135 140

Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser  
145 150 155 160

Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly  
165 170 175

Thr Glu Asp Ser Gly Thr Thr  
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<210> 11  
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TNF-BP sequence

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<222> (1)..(600)

<400> 11  
atg ggc ctc tcc acc gtg cct gac ctg ctg ctg cca ctg gtg ctc ctg 48  
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu  
1 5 10 15

gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga gat agt gtg 96  
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Asp Ser Val  
20 25 30

tgt ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt 144  
Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys  
35 40 45

acc aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg 192  
Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro  
50 55 60

ggg cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct 240  
Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala  
65 70 75 80

tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag 288  
Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys  
85 90 95

gaa atg ggt cag gtg gag atc tct tct tgc aca gtg gac cgg gac acc 336  
Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr  
100 105 110

gtg tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac 384

Val	Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	Ser	Glu	Asn		
		115					120					125					
ctt	ttc	cag	tgc	ttc	aat	tgc	agc	ctc	tgc	ctc	aat	ggg	acc	gtg	cac	432	
Leu	Phe	Gln	Cys	Phe	Asn	Cys	Ser	Leu	Cys	Leu	Asn	Gly	Thr	Val	His		
	130					135					140						
ctc	tcc	tgc	cag	gag	aaa	cag	aac	acc	gtg	tgc	acc	tgc	cat	gca	ggc	480	
Leu	Ser	Cys	Gln	Glu	Lys	Gln	Asn	Thr	Val	Cys	Thr	Cys	His	Ala	Gly		
145					150					155				160			
ttc	ttt	cta	aga	gaa	aac	gag	tgt	gtc	tcc	tgt	agt	aac	tgt	aag	aaa	528	
Phe	Phe	Leu	Arg	Glu	Asn	Glu	Cys	Val	Ser	Cys	Ser	Asn	Cys	Lys	Lys		
			165					170						175			
agc	ctg	gag	tgc	acg	aag	ttg	tgc	cta	ccc	cag	att	gag	aat	gtt	aag	576	
Ser	Leu	Glu	Cys	Thr	Lys	Leu	Cys	Leu	Pro	Gln	Ile	Glu	Asn	Val	Lys		
		180						185					190				
ggc	act	gag	gac	tca	ggc	acc	aca									600	
Gly	Thr	Glu	Asp	Ser	Gly	Thr	Thr										
		195				200											

<210> 12

<211> 200

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant  
TNF-BP sequence

<400> 12

Met	Gly	Leu	Ser	Thr	Val	Pro	Asp	Leu	Leu	Leu	Pro	Leu	Val	Leu	Leu
1				5				10						15	

Glu	Leu	Leu	Val	Gly	Ile	Tyr	Pro	Ser	Gly	Val	Ile	Gly	Asp	Ser	Val
		20					25					30			

Cys	Pro	Gln	Gly	Lys	Tyr	Ile	His	Pro	Gln	Asn	Asn	Ser	Ile	Cys	Cys
		35					40					45			

Thr	Lys	Cys	His	Lys	Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	Cys	Pro	Gly	Pro
	50					55					60				

Gly	Gln	Asp	Thr	Asp	Cys	Arg	Glu	Cys	Glu	Ser	Gly	Ser	Phe	Thr	Ala
65					70					75					80

Ser	Glu	Asn	His	Leu	Arg	His	Cys	Leu	Ser	Cys	Ser	Lys	Cys	Arg	Lys
			85					90						95	

Glu	Met	Gly	Gln	Val	Glu	Ile	Ser	Ser	Cys	Thr	Val	Asp	Arg	Asp	Thr
		100					105					110			

Val	Cys	Gly	Cys	Arg	Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	Ser	Glu	Asn
		115					120					125			

Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His  
 130 135 140  
 Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly  
 145 150 155 160  
 Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys  
 165 170 175  
 Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys  
 180 185 190  
 Gly Thr Glu Asp Ser Gly Thr Thr  
 195 200

<210> 13  
 <211> 603  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: recombinant  
 TNF-BP sequence

<220>  
 <221> CDS  
 <222> (1)..(603)

<400> 13  
 atg ggc ctc tcc acc gtg cct gac ctg ctg ctg cca ctg gtg ctc ctg 48  
 Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu  
 1 5 10 15  
 gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga ctg gtc cct 96  
 Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro  
 20 25 30  
 cac cta ggg gac agg gag aag aga gat agt gtg tgt ccc caa gga aaa 144  
 His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys  
 35 40 45  
 tat atc cac cct caa aat aat tcg att tgc tgt acc aag tgc cac aaa 192  
 Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys  
 50 55 60  
 gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag gat acg gac 240  
 Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp  
 65 70 75 80  
 tgc agg gag tgt gag agc ggc tcc ttc acc gct tca gaa aac cac ctc 288  
 Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu  
 85 90 95  
 aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa atg ggt cag gtg 336  
 Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val

100	105	110	
gag atc tct tct tgc aca gtg gac cgg gac acc gtg tgt ggc tgc agg			384
Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg			
115	120	125	
aag aac cag tac cgg cat tat tgg agt gaa aac ctt ttc cag tgc ttc			432
Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe			
130	135	140	
aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc tcc tgc cag gag			480
Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu			
145	150	155	160
aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc ttt cta aga gaa			528
Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu			
165	170	175	
aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc ctg gag tgc acg			576
Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr			
180	185	190	
aag ttg tgc cta ccc cag att gag aat			603
Lys Leu Cys Leu Pro Gln Ile Glu Asn			
195	200		

<210> 14

<211> 201

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant  
TNF-BP sequence

<400> 14

Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu			
1	5	10	15
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro			
20	25	30	
His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys			
35	40	45	
Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys			
50	55	60	
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp			
65	70	75	80
Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu			
85	90	95	
Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val			
100	105	110	



Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg  
 115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe  
 130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu  
 145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu  
 165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr  
 180 185 190

Lys Leu Cys Leu Pro Gln Ile Glu Asn  
 195 200

<210> 15

<211> 519

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant  
 TNF-BP sequence

<220>

<221> CDS

<222> (1)..(519)

<400> 15

atg ctg gtc cct cac cta ggg gac agg gag aag aga gat agt gtg tgt 48  
 Met Leu Val Pro His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys  
 1 5 10 15

ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt acc 96  
 Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr  
 20 25 30

aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg ggg 144  
 Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly  
 35 40 45

cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct tca 192  
 Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser  
 50 55 60

gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag gaa 240  
 Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu  
 65 70 75 80

atg ggt cag gtg gag atc tct tct tgc aca gtg gac cgg gac acc gtg 288  
 Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val  
 85 90 95

tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac ctt	336
Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu	
100 105 110	
ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg acc gtg cac ctc	384
Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu	
115 120 125	
tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc cat gca ggt ttc	432
Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe	
130 135 140	
ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac tgt aag aaa agc	480
Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser	
145 150 155 160	
ctg gag tgc acg aag ttg tgc cta ccc cag att gag aat	519
Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn	
165 170	

<210> 16  
 <211> 173  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: recombinant  
 TNF-BP sequence

<400> 16  
 Met Leu Val Pro His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys  
 1 5 10 15

Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr  
 20 25 30

Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly  
 35 40 45

Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser  
 50 55 60

Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu  
 65 70 75 80

Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val  
 85 90 95

Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu  
 100 105 110

Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu  
 115 120 125

Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe

130		135		140
Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser				
145		150		155
				160
Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn				
	165		170	

<210> 17  
 <211> 570  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: recombinant  
 TNF-BP sequence

<220>  
 <221> CDS  
 <222> (1)..(570)

<400> 17	
atg ggc ctc tcc acc gtg cct gac ctg ctg ctg cca ctg gtg ctc ctg	48
Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu	
1 5 10 15	
gag ctg ttg gtg gga ata tac ccc tca ggg gtt att gga gat agt gtg	96
Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Asp Ser Val	
20 25 30	
tgt ccc caa gga aaa tat atc cac cct caa aat aat tcg att tgc tgt	144
Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys	
35 40 45	
acc aag tgc cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg	192
Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro	
50 55 60	
ggg cag gat acg gac tgc agg gag tgt gag agc ggc tcc ttc acc gct	240
Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala	
65 70 75 80	
tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc aaa tgc cga aag	288
Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys	
85 90 95	
gaa atg ggt cag gtg gag atc tct tct tgc aca gtg gac cgg gac acc	336
Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr	
100 105 110	
gtg tgt ggc tgc agg aag aac cag tac cgg cat tat tgg agt gaa aac	384
Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn	
115 120 125	
ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat ggg acc gtg cac	432
Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His	

130	135	140	
ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc tgc cat gca ggt			480
Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly			
145	150	155	160
ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt aac tgt aag aaa			528
Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys			
165	170	175	
agc ctg gag tgc acg aag ttg tgc cta ccc cag att gag aat			570
Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn			
180	185	190	

<210> 18

<211> 190

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant  
TNF-BP sequence

<400> 18

Met Gly Leu Ser Thr Val Pro Asp Leu Leu Leu Pro Leu Val Leu Leu
1 5 10 15

Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Asp Ser Val
20 25 30

Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys
35 40 45

Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro
50 55 60

Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala
65 70 75 80

Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys
85 90 95

Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr
100 105 110

Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn
115 120 125

Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His
130 135 140

Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly
145 150 155 160

Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys
165 170 175

Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn  
180 185 190

<210> 19  
<211> 516  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: recombinant  
TNF-BP sequence

<220>  
<221> CDS  
<222> (1)..(516)

<400> 19  
atg gat agt gtg tgt ccc caa gga aaa tat atc cac cct caa aat aat 48  
Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn  
1 5 10 15  
  
tcg att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac 96  
Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp  
20 25 30  
  
tgt cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc 144  
Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly  
35 40 45  
  
tcc ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc 192  
Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser  
50 55 60  
  
aaa tgc cga aag gaa atg ggt cag gtg gag atc tct tct tgc aca gtg 240  
Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val  
65 70 75 80  
  
gac cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat 288  
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr  
85 90 95  
  
tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat 336  
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn  
100 105 110  
  
ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc 384  
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr  
115 120 125  
  
tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt 432  
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser  
130 135 140  
  
aac tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att 480  
Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile

145	150	155	160	
gag aat gtt aag ggc act gag gac tca ggc acc aca				516
Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr				
	165	170		

<210> 20  
 <211> 172  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: recombinant  
 TNF-BP sequence

<400> 20  
 Met Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn  
     1                    5                    10                    15  
 Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp  
           20                    25                    30  
 Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly  
           35                    40                    45  
 Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser  
       50                    55                    60  
 Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val  
   65                    70                    75                    80  
 Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr  
           85                    90                    95  
 Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn  
           100                    105                    110  
 Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr  
       115                    120                    125  
 Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser  
   130                    135                    140  
 Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile  
 145                    150                    155                    160  
 Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr  
       165                    170

<210> 21  
 <211> 1334  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: cDNA insert of  
lambdaTNF-BP15 and pTNF-BP15 vectors

<220>

<221> CDS

<222> (213)..(1325)

<400> 21

gaattctctg gactgaggct ccagttctgg cctttgggggt tcaagatcac tgggaccagg 60

ccgtgatctc tatgcccgag tctcaacctt caactgtcac cccaaggcac ttgggacgtc 120

ctggacagac cgagtcccgg gaagccccag cactgccgct gccacactgc cctgagccca 180

aatgggcgag tgagaggcca tagctgtctg gc atg ggc ctc tcc acc gtg cct 233  
Met Gly Leu Ser Thr Val Pro  
1 5

gac ctg ctg ctg cca ctg gtg ttc ctg gag ctg ttg gtg gga ata tac 281  
Asp Leu Leu Leu Pro Leu Val Phe Leu Glu Leu Leu Val Gly Ile Tyr  
10 15 20

ccc tca ggg gtt att gga ctg gtc cct cac cta ggg gac agg gag aag 329  
Pro Ser Gly Val Ile Gly Leu Val Pro His Leu Gly Asp Arg Glu Lys  
25 30 35

aga gat agt gtg tgt ccc caa gga aaa tat atc cac cct caa aat aat 377  
Arg Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn  
40 45 50 55

tcg att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac 425  
Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp  
60 65 70

tgt cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc 473  
Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly  
75 80 85

tcc ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc 521  
Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser  
90 95 100

aaa tgc cga aag gaa atc ggt cag gtg gag atc tct tct tgc aca gtg 569  
Lys Cys Arg Lys Glu Ile Gly Gln Val Glu Ile Ser Ser Cys Thr Val  
105 110 115

gac cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat 617  
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr  
120 125 130 135

tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat 665  
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn  
140 145 150

ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc 713  
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr  
155 160 165

tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt	761
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser	
170 175 180	
aac tgt aag aaa agc ctg gag tgc agg aag ttg tgc cta ccc cag att	809
Asn Cys Lys Lys Ser Leu Glu Cys Arg Lys Leu Cys Leu Pro Gln Ile	
185 190 195	
gag aat gtt aag ggc act gag gac tca ggc acc aca gtg ctg ttg ccc	857
Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr Val Leu Leu Pro	
200 205 210 215	
ctg gtc att ttc ttt ggt ctt tgc ctt tta tcc ctc ctc ttc att ggt	905
Leu Val Ile Phe Phe Gly Leu Cys Leu Leu Ser Leu Leu Phe Ile Gly	
220 225 230	
tta atg tat cgc tac caa cgg tgg aag tcc aag ctc tac tcc att gtt	953
Leu Met Tyr Arg Tyr Gln Arg Trp Lys Ser Lys Leu Tyr Ser Ile Val	
235 240 245	
tgt ggg aaa tcg aca cct gaa aaa gag ggg gag ctt gaa gga act act	1001
Cys Gly Lys Ser Thr Pro Glu Lys Glu Gly Glu Leu Glu Gly Thr Thr	
250 255 260	
act aag ccc ctg gcc cca aac cca agc ttc agt ccc act cca ggc ttc	1049
Thr Lys Pro Leu Ala Pro Asn Pro Ser Phe Ser Pro Thr Pro Gly Phe	
265 270 275	
acc ccc acc ctg ggc ttc agt ccc gtg ccc agt tcc acc ttc acc tcc	1097
Thr Pro Thr Leu Gly Phe Ser Pro Val Pro Ser Ser Ser Thr Phe Thr Ser	
280 285 290 295	
agc tcc acc tat acc ccc ggt gac tgt ccc aac ttt gcg gct ccc cgc	1145
Ser Ser Thr Tyr Thr Pro Gly Asp Cys Pro Asn Phe Ala Ala Pro Arg	
300 305 310	
aga gag gtg gca cca ccc tat cag ggg gct gac ccc atc ctt gcg aca	1193
Arg Glu Val Ala Pro Pro Tyr Gln Gly Ala Asp Pro Ile Leu Ala Thr	
315 320 325	
gcc ctc gcc tcc gac ccc atc ccc aac ccc ctt cag aag tgg gag gac	1241
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Ser Ala His Lys Pro Gln Ser Leu Asp Thr Asp Asp Pro Ala Thr Leu	
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Tyr Ala Val Val Glu Asn Val Pro Pro Leu Arg Trp	
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<400> 22

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Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly  
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Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn  
 325 330 335

Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp  
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Leu Arg Trp  
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<211> 2173

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: raTNF-R8

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<222> (245)..(1627)

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 Met Gly Leu Pro Ile Val Pro Gly Leu Leu Leu Ser Leu Val Leu  
 1 5 10 15  
 ctg gct ctg ctg atg ggg ata cac cca tca ggg gtc acc gga ctg gtt 337  
 Leu Ala Leu Leu Met Gly Ile His Pro Ser Gly Val Thr Gly Leu Val  
 20 25 30  
 cct tct ctt ggt gac cgg gag aag agg gat aat ttg tgt ccc cag gga 385  
 Pro Ser Leu Gly Asp Arg Glu Lys Arg Asp Asn Leu Cys Pro Gln Gly  
 35 40 45  
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 Lys Tyr Ala His Pro Lys Asn Asn Ser Ile Cys Cys Thr Lys Cys His  
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 aaa gga acc tac ttg gtg agt gac tgt cca agc cca ggg cag gaa aca 481  
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 65 70 75  
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 Val Cys Glu Leu Ser His Lys Gly Thr Phe Thr Ala Ser Gln Asn His  
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 Val Arg Gln Cys Leu Ser Cys Lys Thr Cys Arg Lys Glu Met Phe Gln  
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 gtg gag att tct cct tgc aaa gct gac atg gac acc gtg tgt ggc tgc 625  
 Val Glu Ile Ser Pro Cys Lys Ala Asp Met Asp Thr Val Cys Gly Cys  
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 Val Asp Cys Ser Pro Cys Phe Asn Gly Thr Val Thr Ile Pro Cys Lys  
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 180 185 190  
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 Met Lys Leu Cys Leu Pro Pro Val Ala Asn Val Thr Asn Pro Gln Asp  
 195 200 205  
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Ile	Pro	Ala	Phe	Ser	Pro	Asn	Pro	Gly	Phe	Asn	Pro	Thr	Leu	Gly	Phe															
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385		390					395																							
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435					440					445																				



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 Leu Glu Ser Pro Ala His Ser Ser Thr Thr His Leu Pro Arg  
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<220>  
 <223> Description of Artificial Sequence: raTNF-R8

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 Ser Leu Gly Asp Arg Glu Lys Arg Asp Asn Leu Cys Pro Gln Gly Lys  
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 Tyr Ala His Pro Lys Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys  
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 Gly Thr Tyr Leu Val Ser Asp Cys Pro Ser Pro Gly Gln Glu Thr Val  
                                   65                                  70                                  75                                  80  
 Cys Glu Leu Ser His Lys Gly Thr Phe Thr Ala Ser Gln Asn His Val  
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 Arg Gln Cys Leu Ser Cys Lys Thr Cys Arg Lys Glu Met Phe Gln Val  
                                   100                                  105                                  110  
 Glu Ile Ser Pro Cys Lys Ala Asp Met Asp Thr Val Cys Gly Cys Lys

115					120					125					
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145				150						155					160
Lys	Gln	Asn	Thr	Val	Cys	Asn	Cys	His	Ala	Gly	Phe	Phe	Leu	Ser	Gly
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Lys	Leu	Cys	Leu	Pro	Pro	Val	Ala	Asn	Val	Thr	Asn	Pro	Gln	Asp	Ser
	195						200					205			
Gly	Thr	Ala	Val	Leu	Leu	Pro	Leu	Val	Ile	Phe	Leu	Gly	Leu	Cys	Leu
	210					215					220				
Leu	Phe	Phe	Ile	Cys	Ile	Ser	Leu	Leu	Cys	Arg	Tyr	Pro	Gln	Trp	Arg
225				230						235					240
Pro	Arg	Val	Tyr	Ser	Ile	Ile	Cys	Arg	Asp	Ser	Ala	Pro	Val	Lys	Glu
				245					250					255	
Val	Glu	Gly	Glu	Gly	Ile	Val	Thr	Lys	Pro	Leu	Thr	Pro	Ala	Ser	Ile
			260					265					270		
Pro	Ala	Phe	Ser	Pro	Asn	Pro	Gly	Phe	Asn	Pro	Thr	Leu	Gly	Phe	Ser
		275					280					285			
Thr	Thr	Pro	Arg	Phe	Ser	His	Pro	Val	Ser	Ser	Thr	Pro	Ile	Ser	Pro
	290					295					300				
Val	Phe	Gly	Pro	Ser	Asn	Trp	His	Asn	Phe	Val	Pro	Pro	Val	Arg	Glu
305					310				315						320
Val	Val	Pro	Thr	Gln	Gly	Ala	Asp	Pro	Leu	Leu	Tyr	Gly	Ser	Leu	Asn
				325					330					335	
Pro	Val	Pro	Ile	Pro	Ala	Pro	Val	Arg	Lys	Trp	Glu	Asp	Val	Val	Ala
			340					345					350		
Ala	Gln	Pro	Gln	Arg	Leu	Asp	Thr	Ala	Asp	Pro	Ala	Met	Leu	Tyr	Ala
		355					360					365			
Val	Val	Asp	Gly	Val	Pro	Pro	Thr	Arg	Trp	Lys	Glu	Phe	Met	Arg	Leu
	370					375					380				
Leu	Gly	Leu	Ser	Glu	His	Glu	Ile	Glu	Arg	Leu	Glu	Leu	Gln	Asn	Gly
385					390					395					400
Arg	Cys	Leu	Arg	Glu	Ala	His	Tyr	Ser	Met	Leu	Glu	Ala	Trp	Arg	Arg
				405					410					415	
Arg	Thr	Pro	Arg	His	Glu	Ala	Thr	Leu	Asp	Val	Val	Gly	Arg	Val	Leu

420

425

430

Cys Asp Met Asn Leu Arg Gly Cys Leu Glu Asn Ile Arg Glu Thr Leu  
 435 440 445

Glu Ser Pro Ala His Ser Ser Thr Thr His Leu Pro Arg  
 450 455 460

&lt;210&gt; 26

&lt;211&gt; 2141

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: human TNF-R in  
 1TNF-R2

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (213)..(1577)

&lt;400&gt; 26

gaattctctg gactgaggct ccagttctgg cctttgggggt tcaagatcac tgggaccagg 60

cogtgatctc tatgcccagag tctcaaccct caactgtcac cccaaggcac ttgggacgtc 120

ctggacagac cgagtcccgg gaagccccag cactgcccgt gccacactgc cctgagccca 180

katggggggag tgagaggcca tagctgtctg gc atg ggc ctc tcc acc gtg cct 233  
 Met Gly Leu Ser Thr Val Pro  
 1 5

gac ctg ctg ctg cca ctg gtg ctc ctg gag ctg ttg gtg gga ata tac 281  
 Asp Leu Leu Leu Pro Leu Val Leu Leu Glu Leu Leu Val Gly Ile Tyr  
 10 15 20

ccc tca ggg gtt att gga ctg gtc cct cac cta ggg gac agg gag aag 329  
 Pro Ser Gly Val Ile Gly Leu Val Pro His Leu Gly Asp Arg Glu Lys  
 25 30 35

aga gat agt gtg tgt ccc caa gga aaa tat atc cac cct caa aat aat 377  
 Arg Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln Asn Asn  
 40 45 50 55

tcg att tgc tgt acc aag tgc cac aaa gga acc tac ttg tac aat gac 425  
 Ser Ile Cys Cys Thr Lys Cys His Lys Gly Thr Tyr Leu Tyr Asn Asp  
 60 65 70

tgt cca ggc ccg ggg cag gat acg gac tgc agg gag tgt gag agc ggc 473  
 Cys Pro Gly Pro Gly Gln Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly  
 75 80 85

tcc ttc acc gct tca gaa aac cac ctc aga cac tgc ctc agc tgc tcc 521  
 Ser Phe Thr Ala Ser Glu Asn His Leu Arg His Cys Leu Ser Cys Ser  
 90 95 100

aaa tgc cga aag gaa atg ggt cag gtg gag atc tct tct tgc aca gtg	569
Lys Cys Arg Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val	
105 110 115	
gac cgg gac acc gtg tgt ggc tgc agg aag aac cag tac cgg cat tat	617
Asp Arg Asp Thr Val Cys Gly Cys Arg Lys Asn Gln Tyr Arg His Tyr	
120 125 130 135	
tgg agt gaa aac ctt ttc cag tgc ttc aat tgc agc ctc tgc ctc aat	665
Trp Ser Glu Asn Leu Phe Gln Cys Phe Asn Cys Ser Leu Cys Leu Asn	
140 145 150	
ggg acc gtg cac ctc tcc tgc cag gag aaa cag aac acc gtg tgc acc	713
Gly Thr Val His Leu Ser Cys Gln Glu Lys Gln Asn Thr Val Cys Thr	
155 160 165	
tgc cat gca ggt ttc ttt cta aga gaa aac gag tgt gtc tcc tgt agt	761
Cys His Ala Gly Phe Phe Leu Arg Glu Asn Glu Cys Val Ser Cys Ser	
170 175 180	
aac tgt aag aaa agc ctg gag tgc acg aag ttg tgc cta ccc cag att	809
Asn Cys Lys Lys Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile	
185 190 195	
gag aat gtt aag ggc act gag gac tca ggc acc aca gtg ctg ttg ccc	857
Glu Asn Val Lys Gly Thr Glu Asp Ser Gly Thr Thr Val Leu Leu Pro	
200 205 210 215	
ctg gtc att ttc ttt ggt ctt tgc ctt tta tcc ctc ctc ttc att ggt	905
Leu Val Ile Phe Phe Gly Leu Cys Leu Leu Ser Leu Leu Phe Ile Gly	
220 225 230	
tta atg tat cgc tac caa cgg tgg aag tcc aag ctc tac tcc att gtt	953
Leu Met Tyr Arg Tyr Gln Arg Trp Lys Ser Lys Leu Tyr Ser Ile Val	
235 240 245	
tgt ggg aaa tcg aca cct gaa aaa gag ggg gag ctt gaa gga act act	1001
Cys Gly Lys Ser Thr Pro Glu Lys Glu Gly Glu Leu Glu Gly Thr Thr	
250 255 260	
act aag ccc ctg gcc cca aac cca agc ttc agt ccc act cca ggc ttc	1049
Thr Lys Pro Leu Ala Pro Asn Pro Ser Phe Ser Pro Thr Pro Gly Phe	
265 270 275	
acc ccc acc ctg ggc ttc agt ccc gtg ccc agt tcc acc ttc acc tcc	1097
Thr Pro Thr Leu Gly Phe Ser Pro Val Pro Ser Ser Ser Thr Phe Thr Ser	
280 285 290 295	
agc tcc acc tat acc ccc ggt gac tgt ccc aac ttt gcg gct ccc cgc	1145
Ser Ser Thr Tyr Thr Pro Gly Asp Cys Pro Asn Phe Ala Ala Pro Arg	
300 305 310	
aga gag gtg gca cca ccc tat cag ggg gct gac ccc atc ctt gcg aca	1193
Arg Glu Val Ala Pro Pro Tyr Gln Gly Ala Asp Pro Ile Leu Ala Thr	
315 320 325	
gcc ctc gcc tcc gac ccc atc ccc aac ccc ctt cag aag tgg gag gac	1241

Ala	Leu	Ala	Ser	Asp	Pro	Ile	Pro	Asn	Pro	Leu	Gln	Lys	Trp	Glu	Asp		
	330						335					340					
agc	gcc	cac	aag	cca	cag	agc	cta	gac	act	gat	gac	ccc	gcg	acg	ctg	1289	
Ser	Ala	His	Lys	Pro	Gln	Ser	Leu	Asp	Thr	Asp	Asp	Pro	Ala	Thr	Leu		
	345					350					355						
tac	gcc	gtg	gtg	gag	aac	gtg	ccc	ccg	ttg	cgc	tgg	aag	gaa	ttc	gtg	1337	
Tyr	Ala	Val	Val	Glu	Asn	Val	Pro	Pro	Leu	Arg	Trp	Lys	Glu	Phe	Val		
	360				365				370					375			
cgg	cgc	cta	ggg	ctg	agc	gac	cac	gag	atc	gat	cgg	ctg	gag	ctg	cag	1385	
Arg	Arg	Leu	Gly	Leu	Ser	Asp	His	Glu	Ile	Asp	Arg	Leu	Glu	Leu	Gln		
			380					385						390			
aac	ggg	cgc	tgc	ctg	cgc	gag	gcg	caa	tac	agc	atg	ctg	gcg	acc	tgg	1433	
Asn	Gly	Arg	Cys	Leu	Arg	Glu	Ala	Gln	Tyr	Ser	Met	Leu	Ala	Thr	Trp		
		395					400						405				
agg	cgg	cgc	acg	ccg	cgg	cgc	gag	gcc	acg	ctg	gag	ctg	ctg	gga	cgc	1481	
Arg	Arg	Arg	Thr	Pro	Arg	Arg	Glu	Ala	Thr	Leu	Glu	Leu	Leu	Gly	Arg		
	410					415					420						
gtg	ctc	cgc	gac	atg	gac	ctg	ctg	ggc	tgc	ctg	gag	gac	atc	gag	gag	1529	
Val	Leu	Arg	Asp	Met	Asp	Leu	Leu	Gly	Cys	Leu	Glu	Asp	Ile	Glu	Glu		
	425					430				435							
gcg	ctt	tgc	ggc	ccc	gcc	gcc	ctc	ccg	ccc	gcg	ccc	agt	ctt	ctc	aga	1577	
Ala	Leu	Cys	Gly	Pro	Ala	Ala	Leu	Pro	Pro	Ala	Pro	Ser	Leu	Leu	Arg		
	440				445					450					455		
tgaggctgcg	cccctgcggg	cagctctaag	gaccgtcctg	cgagatcgcc	ttccaacccc	1637											
acttttttct	ggaaaggagg	ggctcctgcag	gggcaagcag	gagctagcag	ccgcctactt	1697											
gggtgctaacc	cctcgatgta	catagctttt	ctcagctgcc	tgcgcgccgc	cgacagtcag	1757											
cgctgtgcgc	gcgagagag	gtgcgccgtg	ggctcaagag	cctgagtggg	tggtttgcga	1817											
ggatgagggg	cgctatgcct	catgcccggt	ttgggtgtcc	tcaccagcaa	ggctgctcgg	1877											
gggccccctgg	ttcgccctg	agcctttttc	acagtgcata	agcagttttt	ttgttttttg	1937											
ttttgttttg	ttttgttttt	aaatcaatca	tgttacacta	atagaaactt	ggcactcctg	1997											
tgcctctgc	ctggacaagc	acatagcaag	ctgaactgtc	ctaaggcagg	ggcgagcacg	2057											
gaacaatggg	gccttcagct	ggagctgtgg	acttttgtac	atacactaaa	attctgaagt	2117											
taaaaaaaaa	aaaaaaagga	attc				2141											

<210> 27

<211> 455

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: human TNF-R in  
1TNF-R2

<400> 27

Met	Gly	Leu	Ser	Thr	Val	Pro	Asp	Leu	Leu	Leu	Pro	Leu	Val	Leu	Leu	
1				5				10						15		
Glu	Leu	Leu	Val	Gly	Ile	Tyr	Pro	Ser	Gly	Val	Ile	Gly	Leu	Val	Pro	
			20					25					30			
His	Leu	Gly	Asp	Arg	Glu	Lys	Arg	Asp	Ser	Val	Cys	Pro	Gln	Gly	Lys	
		35					40					45				
Tyr	Ile	His	Pro	Gln	Asn	Asn	Ser	Ile	Cys	Cys	Thr	Lys	Cys	His	Lys	
	50					55					60					
Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	Cys	Pro	Gly	Pro	Gly	Gln	Asp	Thr	Asp	
65					70					75					80	
Cys	Arg	Glu	Cys	Glu	Ser	Gly	Ser	Phe	Thr	Ala	Ser	Glu	Asn	His	Leu	
				85					90					95		
Arg	His	Cys	Leu	Ser	Cys	Ser	Lys	Cys	Arg	Lys	Glu	Met	Gly	Gln	Val	
			100					105					110			
Glu	Ile	Ser	Ser	Cys	Thr	Val	Asp	Arg	Asp	Thr	Val	Cys	Gly	Cys	Arg	
		115					120					125				
Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	Ser	Glu	Asn	Leu	Phe	Gln	Cys	Phe	
	130					135					140					
Asn	Cys	Ser	Leu	Cys	Leu	Asn	Gly	Thr	Val	His	Leu	Ser	Cys	Gln	Glu	
145					150					155					160	
Lys	Gln	Asn	Thr	Val	Cys	Thr	Cys	His	Ala	Gly	Phe	Phe	Leu	Arg	Glu	
				165					170					175		
Asn	Glu	Cys	Val	Ser	Cys	Ser	Asn	Cys	Lys	Lys	Ser	Leu	Glu	Cys	Thr	
			180					185					190			
Lys	Leu	Cys	Leu	Pro	Gln	Ile	Glu	Asn	Val	Lys	Gly	Thr	Glu	Asp	Ser	
	195						200					205				
Gly	Thr	Thr	Val	Leu	Leu	Pro	Leu	Val	Ile	Phe	Phe	Gly	Leu	Cys	Leu	
	210					215					220					
Leu	Ser	Leu	Leu	Phe	Ile	Gly	Leu	Met	Tyr	Arg	Tyr	Gln	Arg	Trp	Lys	
225					230					235					240	
Ser	Lys	Leu	Tyr	Ser	Ile	Val	Cys	Gly	Lys	Ser	Thr	Pro	Glu	Lys	Glu	
				245					250					255		
Gly	Glu	Leu	Glu	Gly	Thr	Thr	Thr	Lys	Pro	Leu	Ala	Pro	Asn	Pro	Ser	
			260					265					270			
Phe	Ser	Pro	Thr	Pro	Gly	Phe	Thr	Pro	Thr	Leu	Gly	Phe	Ser	Pro	Val	

275	280	285
Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys		
290	295	300
Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly		
305	310	315
Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn		
325	330	335
Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp		
340	345	350
Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro		
355	360	365
Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu		
370	375	380
Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln		
385	390	395
Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala		
405	410	415
Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly		
420	425	430
Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro		
435	440	445
Pro Ala Pro Ser Leu Leu Arg		
450	455	

<210> 28

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: N-terminal  
amino acid sequence of protein purified from urine  
(main sequence)

<220>

<221> UNSURE

<222> (4)

<223> identity of "Xaa" could not be determined

<400> 28

Asp Ser Val Xaa Pro Gln Gly Lys Tyr Ile His Pro Gln
1 5 10

<210> 29

<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: N-terminal  
amino acid sequence of protein purified from urine  
(subsidiary sequence)

<220>  
<221> UNSURE  
<222> (7)  
<223> identity of "Xaa" could not be determined

<400> 29  
Leu Val Pro His Leu Gly Xaa Arg Glu  
1 5

<210> 30  
<211> 151  
<212> DNA  
<213> Homo sapiens

<400> 30  
caggggaaaa tattcaccct caaataattc gatttgctgt accaagtgcc acaaaggaaa 60  
ctacttgtag aatgactgtc caggcccggg gcaggatag gactgcagg agtgtgagag 120  
cggctccttc acagcctcag aaaacaacaa g 151

<210> 31  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 31  
Asp Ser Val Cys Pro Gln Gly Lys  
1 5

<210> 32  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<220>  
<221> UNSURE



<222> (1)..(2)  
<223> identity of "Xaa" could not be determined

<400> 32  
Xaa Xaa Leu Ser Cys Ser Lys  
1 5

<210> 33  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 33  
Asp Thr Val Cys Gly Cys Arg  
1 5

<210> 34  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 34  
Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys  
1 5 10

<210> 35  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 35  
Glu Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys  
1 5 10

<210> 36  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic

cleavage peptide

<220>

<221> UNSURE

<222> (6)

<223> identity of "Xaa" could not be determined

<220>

<221> UNSURE

<222> (10)..(12)

<223> identity of "Xaa" could not be determined

<400> 36

Tyr Ile His Pro Gln Xaa Asn Ser Ile Xaa Xaa Xaa Lys  
1 5 10

<210> 37

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 37

Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn Asn Lys  
1 5 10

<210> 38

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 38

Leu Val Pro His Leu Gly Asp Arg  
1 5

<210> 39

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 39

Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg  
1 5 10 15

<210> 40  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 40  
Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln  
1 5 10

<210> 41  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<220>  
<221> UNSURE  
<222> (9)..(11)  
<223> identity of "Xaa" could not be determined

<400> 41  
Glu Met Gly Gln Val Glu Ile Ser Xaa Xaa Xaa Val Asp  
1 5 10

<210> 42  
<211> 20  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 42  
Lys Glu Met Gly Gln Val Glu Ile Ser Ser Cys Thr Val Asp Arg Asp  
1 5 10 15

Thr Val Cys Gly  
20

<210> 43  
<211> 19  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<220>

<221> UNSURE

<222> (6)

<223> identity of "Xaa" could not be determined

<220>

<221> UNSURE

<222> (18)

<223> identity of "Xaa" could not be determined

<400> 43

Tyr	Ile	His	Pro	Gln	Xaa	Asn	Ser	Ile	Cys	Cys	Thr	Lys	Cys	His	Lys
1				5					10					15	

Gly Xaa Tyr

<210> 44

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<220>

<221> UNSURE

<222> (16)..(17)

<223> identity of "Xaa" could not be determined

<400> 44

Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	Cys	Pro	Gly	Pro	Gly	Gln	Asp	Thr	Xaa
1				5					10					15	

Xaa Arg

<210> 45

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 45

Leu	Cys	Leu	Pro	Gln	Ile	Glu	Asn
1				5			

<210> 46  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<220>  
<221> UNSURE  
<222> (7)  
<223> identity of "Xaa" could not be determined

<400> 46  
Gln Asn Thr Val Cys Thr Xaa His Ala Gly Phe Phe Leu Arg  
1 5 10

<210> 47  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 47  
Ser Leu Glu Cys Thr Lys Leu Cys Leu Pro Gln Ile Glu Asn  
1 5 10

<210> 48  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 48  
Asp Ser Val Cys Pro Gln Gly Lys Tyr Ile His Pro Gln  
1 5 10

<210> 49  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 49  
Gln Gly Lys Tyr Ile His Pro  
1 5

<210> 50  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 50  
caaggtaa atattcatcc 20

<210> 51  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 51  
cagggtaagt acatccatcc 20

<210> 52  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 52  
caaggtaa atatacatcc 20

<210> 53  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 53  
caaggcaa atattcatcc 20

<210> 54  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 54  
cagggcaagt acatccaccc 20

<210> 55  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 55  
caaggcaa atatacatcc 20

<210> 56  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 56  
caaggaaa atattcatcc 20

<210> 57  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 57  
cagggaaagt acatccaccc 20

<210> 58  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: hybridization  
 probe

<400> 58  
 caaggaaaat atatacatcc 20

<210> 59  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: hybridization  
 probe

<400> 59  
 caagggaat atattcatcc 20

<210> 60  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: hybridization  
 probe

<400> 60  
 caggggaagt acatccaccc 20

<210> 61  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: hybridization  
 probe

<400> 61  
 caagggaat atatacatcc 20

<210> 62  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: TNF-BP tryptic  
 cleavage peptide

<400> 62



Glu Cys Gly Ser Gly Ser Phe Thr Ala Ser Glu Asn Asn Lys  
1 5 10

<210> 63  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 63  
Glu Cys Gly Ser Gly Ser Phe Thr Ala Ser Cys Asn Asn Lys  
1 5 10

<210> 64  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 64  
Phe Thr Ala Ser Glu Asn Asn Lys  
1 5

<210> 65  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: TNF-BP tryptic  
cleavage peptide

<400> 65  
Phe Thr Ala Ser Cys Asn Asn Lys  
1 5

<210> 66  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 66  
aaatgacgga gactcttggt gttcctaggg

30

<210> 67  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 67  
aagtggcgta gtcttttggt gttcctaggg 30

<210> 68  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 68  
aaatgtcgga gactcttggt gttcctaggg 30

<210> 69  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 69  
aaatgacggt cactcttggt gttcctaggg 30

<210> 70  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: hybridization  
probe

<400> 70  
aagtggcggt ctcttttggt gttcctaggg 30

<210> 71  
<211> 30  
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization  
probe

<400> 71

aaatgtcggg cactcttggt gttcctaggg

30

<210> 72

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization  
probe

<400> 72

aaatgacgga gaacattggt gttcctaggg

30

<210> 73

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization  
probe

<400> 73

aagtggcgta gtactttggt gttcctaggg

30

<210> 74

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization  
probe

<400> 74

aaatgtcggga gaacattggt gttcctaggg

30

<210> 75

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: hybridization  
probe

<400> 75  
 aaatgacggt caacattggt gttcctaggg 30

<210> 76  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: hybridization probe

<400> 76  
 aagtggcggt ctactttggt gttcctaggg 30

<210> 77  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: hybridization probe

<400> 77  
 aaatgtcggt caacattggt gttcctaggg 30

<210> 78  
 <211> 158  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(153)

<400> 78  
 cag ggg aaa tat att cac cct caa aat aat tcg att tcg tgt acc aag 48  
 Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Ser Cys Thr Lys  
 1 5 10 15

tcg cac aaa gga acc tac ttg tac aat gac tgt cca ggc ccg ggg cag 96  
 Ser His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln  
 20 25 30

gat acg gac tgc agg gag tgt gag agc ggc tcc ttc aca gcc tca gaa 144  
 Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu  
 35 40 45

aac aac aag gatcc 158  
 Asn Asn Lys  
 50

<210> 79  
<211> 51  
<212> PRT  
<213> Homo sapiens

<400> 79  
Gln Gly Lys Tyr Ile His Pro Gln Asn Asn Ser Ile Ser Cys Thr Lys  
1 5 10 15  
Ser His Lys Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln  
20 25 30  
Asp Thr Asp Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu  
35 40 45  
Asn Asn Lys  
50

<210> 80  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR primer  
EBI-1786

<400> 80  
ggaattcagc ctgaatggcg aatggg 26

<210> 81  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR primer  
EBI-1729

<400> 81  
cctcgagcgt tgctggcggtt ttccc 25

<210> 82  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR primer  
EBI-1733

<400> 82  
ggtcgacatt gattattgac tag 23

<210> 83  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR primer  
EBI-1734

<400> 83  
ggaattccct aggaatacag cgg 23

<210> 84  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: mutagenesis  
primer EBI-1751

<400> 84  
gtacttgaac tcgttctg 19

<210> 85  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: mutagenesis  
primer EBI-1857

<400> 85  
ggcaagggca gcagccgg 18

<210> 86  
<211> 53  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
oligonucleotide EBI-1823

<400> 86  
agcttctgca ggtcgacatc gatggatcgg tacctcgagc ggccgcgaat tct 53

<210> 87  
<211> 54  
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide EBI-1829

<400> 87

ctagagaatt cgcggccgct cgaggtaccg gatccatcga tgcgacctg caga 54

<210> 88

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide EBI-1820

<400> 88

agctctagag attcgcggcc gctcgaggta ccgcatccat cgatgtcgac ctgcagaagc 60

ttg

63

<210> 89

<211> 64

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
oligonucleotide EBI-1821

<400> 89

ctagcaagct tctgcaggtc gacatcgatg gatccggtac ctcgagcggc cgcgaattct 60

ctag

64

<210> 90

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
EBI-1986

<400> 90

caggatccga gtctcaaccc tcaac 25

<210> 91

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
EBI-1929

<400> 91

gggaattcct tatcaattct caatctgggg taggcacaac ttc

43

<210> 92

<211> 81

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
EBI-2452

<400> 92

cacagtcgac ttacatttgc ttctgacaca actgtgttca ctagcaacct caaacagaca 60

ccatgggcct ctccaccgtg c

81

<210> 93

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
EBI-1922

<400> 93

gaggctgcaa ttgaagc

17

<210> 94

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer  
EBI-2316

<400> 94

attcgtgcgg cgcttag

17

<210> 95

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer



EBI-2467

<400> 95  
gtcggtagca ccaagga

17

<210> 96  
<211> 17  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: M13-40  
universal primer

<400> 96  
gttttccag tcacgac

17

<210> 97  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR primer  
EBI-2112

<400> 97  
gtccaattat gtcacacc

18